Communicable Disease Report

Hawai'i Department of Health
Communicable Disease Division

January/February 1999

Hansen's Disease, The Year 2000, and Hawai`i

Current Status in Hawai`i

If all goes according to plans, there will be less than one Hansen's Disease patient per 10,000 general population in the world in the year 2000. Great progress has been made by country programs, the World Health Organization (WHO) and voluntary organizations to reach this goal. With only one year remaining, the State of Hawai`i is below the target at 0.85 cases per 10,000 but remains the state with the highest prevalence rate in the country. The United States prevalence rate is 0.02 per 10,000.

The countries with the highest prevalence rates in the world are neighbors of Hawai`i, the Federated States of Micronesia (FSM) at 35/10,000 and the Republic of Marshall Islands (RMI) at 15/10,000. Therefore, it is not surprising that the number of new patients in Hawai`i originating from FSM and RMI have increased. The majority of newly diagnosed patients in Hawai`i during the past 20 years were born in the Philippines, but as the prevalence rate in the Philippines nears the target at 1.26 per 10,000, these numbers are decreasing.

Global Reduction in Prevalence Rates

The remarkable improvements in world prevalence rates have been accomplished through the use of multi-drug therapy (rifampin, dapsone, clofasamine) administered through very well managed public health programs. The medicines have been donated by the Sasakawa Memorial Health Foundation given through WHO to almost all of the 55 endemic countries. The Pacific island countries of FSM and RMI became a part of the WHO sponsored multi-drug programs later than most countries and have not yet received the benefits of well focused public health programs. Thus new patients will continue to be diagnosed in Hawai`i for many years as people from these countries enter Hawai`i for reasons of employment, education, and relocation.

Effectiveness of Multi-Drug Therapy

The multi-drug therapy (MDT), when started in a newly diagnosed patient, ends the possibility of transmitting the disease to another person almost immediately. However, treatment with these drugs should continue for up to two years and sometimes longer to prevent complications. There are 1 - 2 million individuals in the world who are disabled because of Hansen's Disease. A delay in diagnosis and treatment leads to nerve damage and permanent disabilities. Many countries where Hansen's Disease is endemic have not been able to develop appropriate programs to assist disabled people. However, the affected people have formed an international organization, International Association for Integration, Dignity and Economic Advancement (IDEA), that is beginning to address their own concerns as former Hansen's Disease patients. Through self-help and advocacy some of their problems may be solved. IDEA was the organization that arranged for the exhibit "Quest for Dignity" visit to Hawai`i in July 1998.

Continuing Concerns

Even with decreasing prevalence rates and with disabled persons addressing some of their own concerns, public health efforts regarding Hansen's Disease cannot be relaxed. For while the prevalence rates have decreased, the incidence rates have not.

WHO defines a "case of leprosy" as a person having one or more of the following and who has yet to complete a full course of treatment:

- hypopigmented or reddish skin lesion (s) with definite loss of sensation;
- involvement of the peripheral nerves, i.e., definite thickening with loss of sensation; or
- skin smear positive for acid-fast bacilli.

Once the person has completed a full course of treatment, the person is re-

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Prevention and Control of Tuberculosis Among Foreign-Born Persons

In May 1998, the Centers for Disease Control and Prevention (CDC) convened a special Working Group comprised of representatives from tuberculosis (TB) control programs, the CDC's Division of TB Elimination, and Division of Quarantine to discuss the problem and propose solutions for the increase in TB morbidity among foreign-born persons in the United States (U.S.)[1]. This problem is particularly applicable to the State of Hawai`i, as we have the highest percentage of foreign-born TB cases in the U.S. In 1997, the State of Hawai`i reported 167 cases of TB, of which 126 cases (75.4%) were in the foreign-born. The number of foreign-born cases in the U.S. increased during 1986-1997 from 4,925 cases in 1986 (22% of the total) to 7,702 cases (39% of the total) in 1997. The Hawai`i Department of Health's TB Control Branch has adopted the recommendations of the Working Group to promote greater detection, treatment and prevention of TB among our foreign-born residents.

Developing Epidemiologic Profiles

To improve TB control efforts in specific jurisdictions, it is necessary to better understand the characteristics of foreign-born populations and TB cases among the foreign-born in those jurisdictions. This can be done by obtaining data concerning care-seeking behaviors, community organizations or structures with access to specific foreign-born populations, sources of interpreter services, delays in seeking care, as well as sources of culturally appropriate health information.

Baseline TB case profiles among foreign-born persons can be developed from the "Reports of Verified Cases of Tuberculosis" by including additional variables such as whether persons were identified as suspect cases on overseas screening. Special studies to complete the epidemiologic profiles of foreign-born TB cases may need to be performed. Efforts should be coordinated with the CDC and other agencies to develop profiles of immigration trends and patterns at the global, national, state, and local levels.

The CDC will continue to expand data presented regarding TB cases among foreign-born individuals in annual surveillance reports. It will also develop guidelines to monitor disease prevalence in each reporting district to document the burden of disease represented by persons entering the U.S. In addition the CDC will be collaborating with international and national agencies and organizations, as well as state and local health departments to develop profiles of immigration trends and patterns at the global, national state and local levels.

Case Finding, Screening and Preventive Therapy

Active case finding can help identify TB cases among foreign-born persons whose access to health-care services may be limited. The yield of case finding, however, can be influenced by factors such as screening procedures before entering the U.S., the country or region of origin, length of time in the U.S., current age, and age at time of entry into the U.S.

Screening and providing preventive therapy to foreign-born persons is often hindered by the large number of people to be screened, difficulties in diagnosis, difficulties in gaining access to persons who should be screened, cultural and linguistic barriers, and perceived difficulty in interpreting tuberculin skin tests among persons who have received BCG vaccine. TB control planning emphasizes the community planning role of the health department, and the implementation role of the other providers in the community. The plan should be specific to the characteristics of TB among the jurisdiction's foreign-born population. It is a priority to locate, evaluate and treat all immigrants with suspected TB, or abnormal chest x-rays as determined in their required immigration physical exam (i.e. Class A, and Class B immigrants). Immigrants from countries with high rates of TB, immigrants from high risk-areas who have been in the U.S. for less than five years or are over 55 years of age, and other groups that epidemiologic profiles demonstrate are "producing cases" should also be screened.

TB control plans for screening should include identifying adequate program resources and a process to ensure the completion of preventive therapy. Preventive therapy programs should be evaluated to determine their effectiveness and impact. The magnitude and scope of non-adherence to preventive therapy among foreign-born populations should be determined. Culturally sensitive and language-appropriate materials on TB infection, BCG vaccine, skin testing, and the importance of isoniazid (INH) preventive therapy should be made available to immigrants.

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STD/AIDS Prevention Branch	733-9010
STD Reporting	733-9289
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Information & Disease Reporting	586-4586
After-hours Emergency Reporting	247-2191 (State Operator)
After-hours Neighbor Island Emergency Reporting	800-479-8092

The Health State
HAWAI'I STATE DEPARTMENT OF HEALTH

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The Emergence of Salmonella Enteritidis *in Hawai'i?*

Background

In May, 1996 the Centers for Disease Control and Prevention (CDC) reported that they had detected an epidemic increase of cases of *Salmonella* serotype *enteritidis* (SE) in Hawai'i. SE causes a self-limiting diarrheal illness usually lasting less than a week. It is primarily contracted by ingestion of the organism in food which is derived from infected food-animals or contaminated by feces of an infected animal or person. During the years 1992 through 1995, Hawai'i averaged 20 reported cases per year. However, there was a substantial rise in cases between 1995 (30 cases) and 1996 (75).

A random sample of the 1996 isolates were tested to determine the phage types. Fourteen of the 15 samples were phage type (PT) 4, a PTfirst reported in Europe, the former Soviet Union, and Mexico in the 1980s where it was responsible for pandemic illness.[1] Phage type 4 was identified as the predominant type in the SE epidemic in California which started in 1994.[2]

Hawai'i imports some of its chicken and a majority of its mainland eggs from California. Chicken and eggs have been shown to be associated with outbreaks and sporadic cases of SE by a number of studies in the United States and in Great Britain.[1,2,3,4,5,6]

Methods

A prospective case-control study was initiated to investigate the possible introduction of SE PT 4 from eggs or chicken arriving from the mainland. All culture-confirmed cases reported to the Epidemiology Branch between June 1, 1997 and December 31, 1997 were eligible for the study. Private clinical laboratories were asked to promptly notify the Department of Health if SE was isolated from stools. Telephone interviews were performed as each new case was identified. Two age-matched controls for each case were chosen using random digit dialing. Any Hawai_i resident age one year or older, with onset of a diarrheal illness from which SE was isolated from the stool, was included in the study.

Results

Thirty-one SE cases were reported during the study period. Seventeen of these met the criteria for inclusion. Fourteen cases were excluded from the analysis because they were secondary cases within families, children under one year of age, non-English speakers, imported cases, or were unable to be contacted. The ages of case patients ranged from one year to 83 years. All islands were represented in a ratio approximating their populations. Females outnumbered males 12 to 5. Self-reported ethnicities included Hawaiian (8), Caucasian (6), and cosmopolitan (3). These statistics must be interpreted cautiously due to the small sample size.

Chi-square analysis was performed using Epi Info version 6.04. Eating chicken outside the home was significantly associated with illness (odds ratio [OR]=12.00, 95% confidence interval [CI] = 1.14, 301.43, $p<.05$). Eating chicken in the home was significantly protective (OR=0.08; CI=0.01, 0.63, $p<.01$).

Of the 17 isolates, seven were PT 4, five were PT 13a, and three were PT 8. The proportion of PT 4 isolates declined from 94% of the sample in 1996 to 41% in 1997 ($p<.01$). The annual number of SE cases decreased from 75 cases in 1996 to 42 in 1997.

Conclusions

Chicken eaten outside of the home was the only risk factor significantly associated with illness. Undercooked or raw eggs were not significantly associated with illness in this study. The predominance of PT 4 isolates seen in 1996 was not observed in the second half of 1997, although PT 4 isolates were the most common type identified. Despite temporal clustering of similar phage types, no common exposures were detected during case interviews. While the results were interesting and unexpected, the small number of cases detected prevented acceptance or rejection of the hypothesis that the increase in SE cases was due to consumption of raw or undercooked eggs.

Recommendations to help prevent infections caused by *Salmonella enteritidis* include proper food handling of raw meats and eggs by food service workers, proper refrigeration of eggs during handling and storage, and thorough cooking of chicken and eggs (until yolk and white are firm). Proper cooking of eggs and chicken is particularly important for persons with compromised immune systems, pregnant women, and the elderly. The diagnosis of SE is made by stool culture. *Salmonella* enterocolitis should be considered in any patient with moderate to severe gastroenteritis, especially those patients experiencing bloody diarrhea and fever. Stool culture for enteric pathogens should be obtained in these cases, so that medical management and control measures can be optimized.

REFERENCES

[1] Rodrigue DC, Tauxe RV, Rowe B. International increase in *Salmonella enteritidis:* A new pandemic? Epidemiol Infect 1990;105:21-27.

[2] St. Louis ME, Morse DL, Potter ME, DeMelfi TM, Guzewich JJ, Tauxe RV, et al. The emergence of grade A eggs as a major source of *Salmonella enteritidis* infections: New implications for the control of salmonellosis JAMA 1988;259: 2103-2107.

[3] Centers for Disease Control and Prevention. Outbreaks of *Salmonella* serotype Enteritidis infection associated with consumption of raw shell eggs — United States, 1994-1995. MMWR 1996;45:737-742.

[4] Mishu B, Loehler J, Lee LA, Rodrigue D, Hickman-Brenner F, Blake P, et al. J Infect Dis 1994:169:547-552.

[5] Cowden JM, Lynch D, Joseph CA, O'Mahony M, Mawer SL, Rowe B, et al. Case-control study of infections with *Salmonella enteritidis* phage-type 4 in England. Br Med J 1989;299:771-773.

[6] Coyle EF, Ribeiro CD, Howard AJ, Palmer SR, Jones HI, Ward L. *Salmonella enteritidis* phage type 4 infection: Association with hens' eggs. Lancet 1988;2:1295-1297.

Submitted by Erick T. Cremer, R.N., M.P.H., Epidemiological Specialist, Maui District Health Office.

Recommended Childhood Immunization Schedule, United States, 1999

The 1999 Recommended Childhood Immunization Schedule was published in the January 15, 1999 issue of the Morbidity and Mortality Weekly Report[1], and has been approved by the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians (AAFP).

Highlights of the changes since the 1998 schedule include:

1) **The ACIP, AAP, and AAFPnow recommend that the first 2 doses of poliovirus vaccine should be inactivated poliovirus vaccine (IPV). Oral poliovirus vaccine (OPV) is no longer recommended for the first 2 doses of the schedule and is acceptable only for special circumstances.**

2) Diphtheria toxoid, tetanus toxoid, acellular pertussis vaccine, and *Haemophilus influenzae* type b conjugate vaccine (DTaP/Hib) combination products should not be used for primary immunization in infants at 2, 4, or 6 months of age, unless approved by the Food and Drug Administration (FDA) for these ages. As of January 4, 1999, there were no FDA approved combination DTaP/Hib vaccines currently licensed for use in infants at 2, 4, and 6 months of age. DTaP/Hib vaccines are licensed only for use in children 15 - 18 months of age.

3) Hepatitis B vaccine is recommended for **all** children and adolescents. In addition, "Special efforts should be made to immunize children who were born in or whose parents were born in areas of the world with moderate or high endemicity of hepatitis B virus infection."

4) There are no longer two different pediatric formulations of Recombivax HB® hepatitis B vaccine. Only the 5mcg/0.5 ml dose of Recombivax HB® is available, and is indicated for all vaccinees aged 0-19 years regardless of the mother's hepatitis B surface antigen status.

5) An oral vaccine for the prevention of rotavirus gastroenteritis in infants and children was licensed by the FDA on August 31, 1998. Rotavirus vaccine has been shaded and italicized on the 1999 Recommended Childhood Immunization Schedule indicating that health care providers may require time and resources to incorporate this vaccine into their practice. The AAFP feels the decision to use rotavirus vaccine should be made by the parent/guardian in consultation with the health care provider.

For further details, please see the enclosed 1999 Recommended Childhood Immunization Schedule, or call the Hawai`i Immunization Program's Officer of the Day at (808) 586-8332 in Honolulu. The ACIP statement for each recommended childhood vaccine may be viewed, downloaded, and printed at the Centers for Disease Control and Prevention's National Immunization Program World-wide Web site, **http://www.cdc.gov/nip**.

REFERENCE:

[1] Centers for Disease Control and Prevention. Recommended Childhood Immunization Schedule - United States, 1999. *MMWR*,1999;48(1):12-16.

Submitted by Marcia Nagao, M.D., M.P.H., Project Coordinator, Assessment and Technical Support, Hawai`i Immunization Program, Epidemiology Branch.

1998 Surveillance Summary

The following are 1998 state and county communicable disease totals by date of report and incidence rate (cases/100,000 population). The diseases listed correspond to those in the Communicable Disease Surveillance graph that appears on page 7. Incidence rates are in bold print. Changes in state case totals from 1997 are also listed.

1998 Cases and Incidence Rates by State and County

Disease	State	Change	**Rate**	Honolulu	**Rate**	Hawaii	**Rate**	Maui	**Rate**	Kauai	**Rate**
AIDS	169	70	**13.0**	116	**12.6**	12	**7.8**	30	**19.1**	11	**15.8**
Campylobacteriosis	633	-201	**53.5**	458	**55.1**	60	**39.2**	84	**53.5**	31	**55.0**
Chlamydia	2594	797	**219.1**	2196	**251.9**	226	**163.3**	147	**125.5**	25	**44.3**
Giardiasis	123	-35	**10.4**	100	**11.5**	6	**3.9**	11	**7.0**	6	**8.6**
Gonorrhea	501	-5	**42.3**	477	**54.7**	16	**11.6**	7	**6.0**	1	**1.8**
Hepatitis A	47	-96	**4.0**	43	**4.9**	0	**0**	3	**2.6**	1	**1.4**
Salmonellosis	306	-108	**25.9**	236	**27.1**	30	**21.7**	31	**19.8**	9	**12.9**
Tuberculosis	181	10	**15.3**	149	**17.1**	13	**8.5**	16	**13.7**	3	**4.3**
Ciguatera Poisoning	49	-8	**3.8**	24	**2.6**	12	**7.8**	9	**5.7**	4	**5.8**
Hansen's Disease	16	-10	**1.2**	10	**1.1**	4	**2.6**	2	**1.3**	0	**0**
Acute Hepatitis B	15	4	**1.3**	10	**1.1**	0	**0**	4	**3.4**	1	**1.4**
Leptospirosis	37	-4	**3.1**	13	**1.5**	15	**9.8**	1	**0.6**	8	**14.2**
Measles	1	-5	**0.1**	1	**0.1**	0	**0**	0	**0**	0	**0**
Pertussis	21	7	**1.8**	10	**1.1**	8	**5.2**	2	**1.3**	1	**1.4**
Rubella	2	-7	**0.2**	1	**0.1**	0	**0**	1	**0.6**	0	**0**
Syphilis, Primary and Secondary	1	0	**0.1**	1	**0.1**	0	**0**	0	**0**	0	**0**

New Lyme Disease Vaccine

The U.S. Centers for Disease Control and Prevention recently reported[1] that the Food and Drug Administration (FDA) licensed LYMErix™, a new vaccine against Lyme disease (LD) manufactured by SmithKline Beecham. The etiologic agent of LD is *Borrelia burgdorferi.* The new vaccine contains lipidated recombinant outer surface protein A (OspA) of *Borrelia burgdorferi,* adsorbed onto aluminum adjuvant.

Epidemiology

LD is the most commonly reported vectorborne disease in the United States. Most of the cases are reported from the northeast and north central states. The highest rates of infection have occurred in children <15 years of age and in adults 30-59 years of age. Cases are most common from April through July, which corresponds to the time nymphal stages of the LD tick vectors, *Ixodes scapularis* and *I. pacificus,* are actively seeking hosts. The ticks are found primarily in leaf litter and low-lying vegetation in wooded, brushy or overgrown grassy areas, and can transmit other diseases as well (e.g. babesiosis and ehrlichiosis). ***NOTE: LD is not found in Hawai`i. The species of ticks, mice and deer that carry the organism are not present in the State. However, occasional cases have been previously diagnosed in Hawai`i in humans and dogs who were exposed to LD on the United States mainland.***

Vaccine Indications, Dosage, and Efficacy

LYMErix™ is indicated for persons between the ages of 15-70 years living in areas of high incidence for LD whose activities place them in contact with LD tick vectors. Three doses of vaccine are administered by intramuscular injection over 13 months; the second dose one month following the first, and the third dose given 12 months following the second. Timing of administration of the series should coincide with the completion of the third dose several weeks before April, the beginning of the *B. burgdorferi* transmission season.

Efficacy studies showed the first two doses of vaccine prevented LD in 50% of recipients, while it prevented LD in 78% of patients after three doses. Seroconversion occurred in 83% after two doses and 100% following three doses of the vaccine. Duration of immunity and the need for booster doses has not been determined.

Local reactions at the site of injection were common. Myalgias, influenza-like illness, fever and chills within 30 days following a dose were reported by <5% of vaccine recipients. There have also been reports of arthritis, as well as transient arthralgias following doses of vaccine.

Because the vaccine is not 100% efficacious and does not provide protection against other tickborne diseases, vaccination should not be considered a substitute for other preventive measures, such as avoiding tick habitats, wearing protective clothing, using repellents to avoid tick attachment, and promptly removing attached ticks. Recommendations for use of the LD vaccine are currently being developed by the Advisory Committee for Immunization Practices.

REFERENCE:
[1] Centers for Disease Control and Prevention. Availability of Lyme Disease Vaccine. *MMWR,* 1999,48(2),35-36,43.

Submitted by David M. Sasaki, DVM, MPH, Veterinary Medical Officer, Epidemiology Branch.

Hansen's Disease

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moved from the registry and is no longer considered a patient in terms of calculating the prevalence rate. They may, however, have persisting disabilities.

With the use of MDT, the registered patients – many backlogged from the past – have been discharged from official registries. However, the number of new patients diagnosed per year have not decreased significantly during the past years (the incidence rate). In other words, the public health efforts have not been able to stop the transmission of the disease in endemic countries. A clear explanation of how Hansen's Disease is spread and an effective approach to preventing the disease is not yet available.

The Future of Hansen's Disease in Hawai`i

What does this mean for Hawai`i? A person born in Hawai`i with a new diagnosis of Hansen's Disease will be very rare. However, people born in other countries coming to live in Hawaii will continue to be diagnosed with Hansen's Disease. Most people with new disease will have been exposed in their countries of origin. As new patients are diagnosed in Hawai`i, MDT treatment will begin early, thus preventing transmission to others here and preventing disabilities.

The Kalaupapa Settlement

No article about Hansen's Disease in Hawai`i is complete without a few words about Kalaupapa. The Settlement on Moloka`i continues to be supported by the State Department of Health for those former patients who call Kalaupapa home. This community is getting older and decreasing in number. Visitors over the age of 16 are welcome, but permission must be given in advance and sponsorship by residents or the patient-managed tour is required. The National Park Service is preparing for the time when all efforts will be directed towards the preservation of the land and the memory of people who were forced to live in isolation because they had been diagnosed with an untreatable communicable disease.

For further information about the Hansen's Disease program, diagnosis and treatment - please call (808) 735-2472 in Honolulu, and (808) 567-6613 for Kalaupapa on Moloka`i.

Submitted by Mona R. Bomgaars, M.D., M.P.H., Chief, Hansen's Disease Branch.

1998 Index of Articles

The following articles were published in 1998 in the Communicable Disease Report. They are listed alphabetically by subject, with the date of publication and the Branch/program that authored the article.

Articles

- Apology (NOV-DEC) (1)
- Articles, 1997 Index of (JAN-FEB) (1)
- Bruno, Dr., Welcome Back (NOV-DEC) (2)
- Communicable Disease Outbreak Investigations, Summary of 1997 (NOV-DEC) (3)
- Communicable Disease Report on the Internet (MAR-APR) (1)
- Group A Streptococcal (GAS) Infections, Severe, Kaua`i, 1997 (MAY-JUN) (3)
- Hepatitis A in Hawai`i (MAR-APR) (3)
- Hepatitis C, Surveillance of, Begins (MAY-JUN) (4)
- Immunization of Health-Care Workers (5)
- Immunization Update 1998 (Videoconference) (MAY-JUN) (5)
- Immunization Schedule, 1998 Recommended Childhood (Insert) (MAR-APR) (5)
- Immunization Schedule, Recommended Childhood, United States, 1998 (MAR-APR (5)
- Influenza Prevention and Control During 1998-99 (NOV-DEC) (5)
- Influenza Surveillance, Enhanced (JAN-FEB) (3)
- Influenza Surveillance in Hawai`i (NOV-DEC) (3)
- Leptospirosis Study Seeks Better Screening Test (MAY-JUN) (1)
- Meningitis, Enteroviral, on Kaua`i (MAY-JUN) (6)
- Pneumococcal Vaccine Recommendations, 1998 (MAR-APR) (5)
- Rabies Vaccine, FDA approves New Human (JAN-FEB) (1)
- Scarlet Fever, Foodborne, at Two Private Schools on O'ahu (MAY-JUN) (3)
- Sexually-Transmitted Diseases, New Guidelines for Treatment of (MAR-APR) (7)
- *Streptococcus pneumoniae* in Hawai`i, Antibiotic Resistance of (MAR-APR) (8)
- Surveillance Graph, New Additions to the (MAY-JUN) (1)
- Surveillance Summary, 1997 (JAN-FEB) (1)
- Thank You (NOV-DEC) (3)
- Vaccine Safety and Risk Communication (Videoconference) (JAN-FEB) (5)

Branches/Programs Submitting Articles and the Number of Articles Submitted

(1) Epidemiology Branch - Zoonoses (7)
(2) Communicable Disease Division - Administration (1)
(3) Epidemiology Branch - Investigation Section (7)
(4) Epidemiology Branch - Hepatitis Section (1)
(5) Epidemiology Branch - Hawai`i Immunization Program (7)
(6) Kaua`i District Health Office - Epidemiology (1)
(7) STD/AIDS Prevention Branch - STD Control Section (1)
(8) Diagnostic Laboratory Services and Queen's Medical Center Department of Pathology (1)

Tuberculosis

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The CDC will provide health departments with timely information on arriving Class B immigrants who need evaluation, provide guidance and data to health departments, determine priorities for active case finding, conduct and support studies and assessments of innovative methods of case finding, and develop interstate communication and notification methods for tracking TB patients who may be highly mobile and easily lost to follow up.

Diagnosing and Managing TB

Foreign-born persons encounter many barriers in their pursuit of health care in the U.S. which can impede the recognition of TB. Communication with health care providers may be hindered due to linguistic and cultural barriers. Immigrants may not understand how to gain access to the health care system, and are often ineligible for employee-based health insurance or Medicaid. They often cannot afford to purchase private insurance. Attempts are made to utilize outreach workers and case managers from the same cultural, ethnic, and linguistic background as the clients to improve the effectiveness of TB screening, case finding, and adherence to therapy in this population.

Community practitioners and physicians providing health services to foreign-born persons from high-risk areas should have a high suspicion for TB in anyone with a respiratory or systemic illness, and evaluate them for possible TB. Patients on O`ahu with active TB can be referred to the Lanakila Health Center Chest Clinic to receive anti-tuberculosis chemotherapy. Tuberculosis clinics are also located on the islands of Hawai`i, Maui, and Kaua`i.

For more information, please call the Tuberculosis Control Branch at (808) 832-5731 in Honolulu.

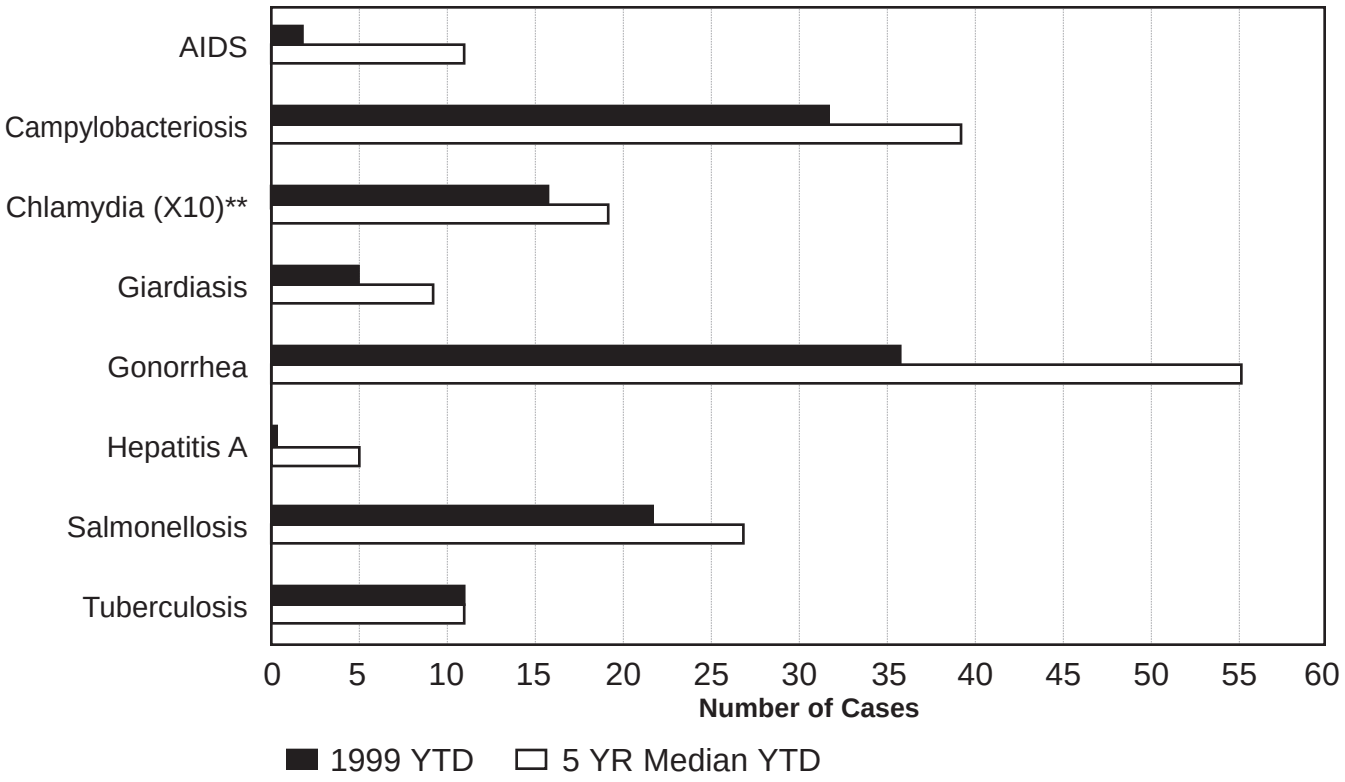
REFERENCE:

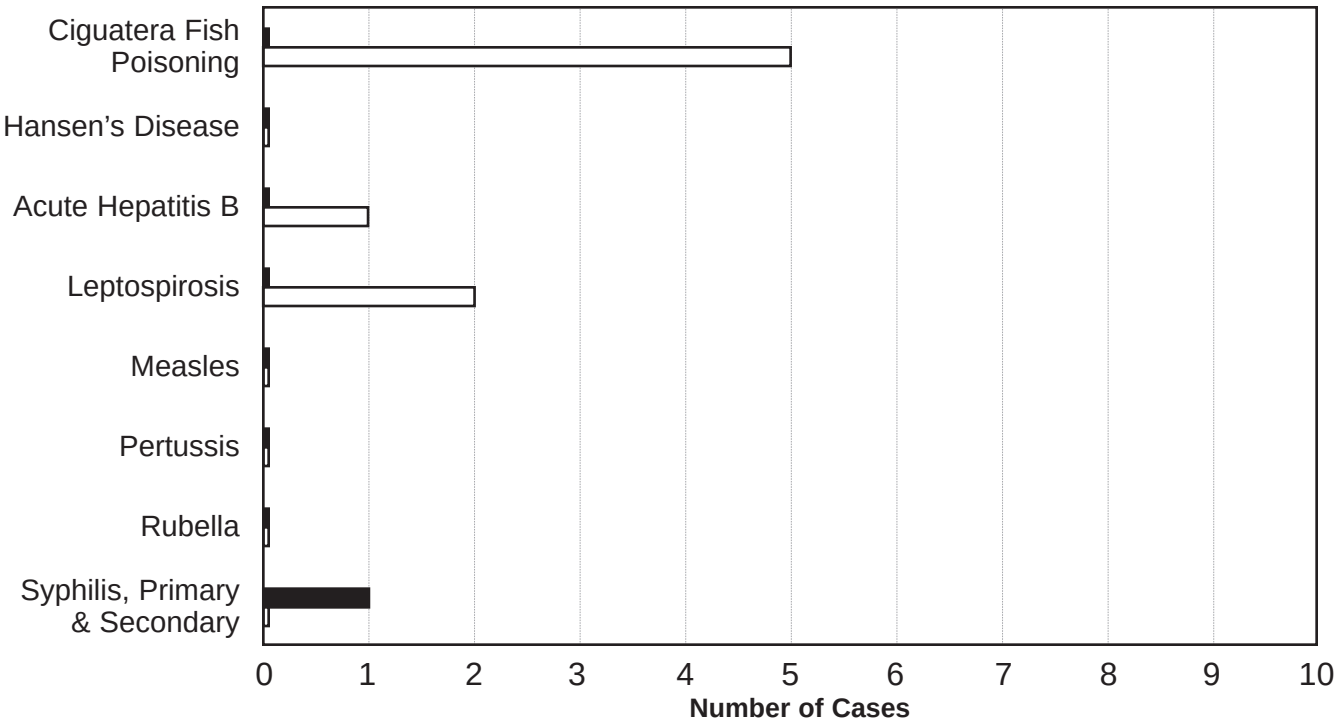
[1] Centers for Disease Control and Prevention. Recommendations for Prevention and Control of Tuberculosis among Foreign-Born Persons: Report of the Working Group on Tuberculosis Among Foreign-Born Persons. *MMWR* 1998:47 (No. RR-16)1-29.

Submitted by James H. Gollop, M.D., M.P.H., Tuberculosis physician, Tuberculosis Control Branch.

Communicable Disease Surveillance

Selected Diseases by Date of Report*
Hawai'i, 1999 Year-to-date Through January

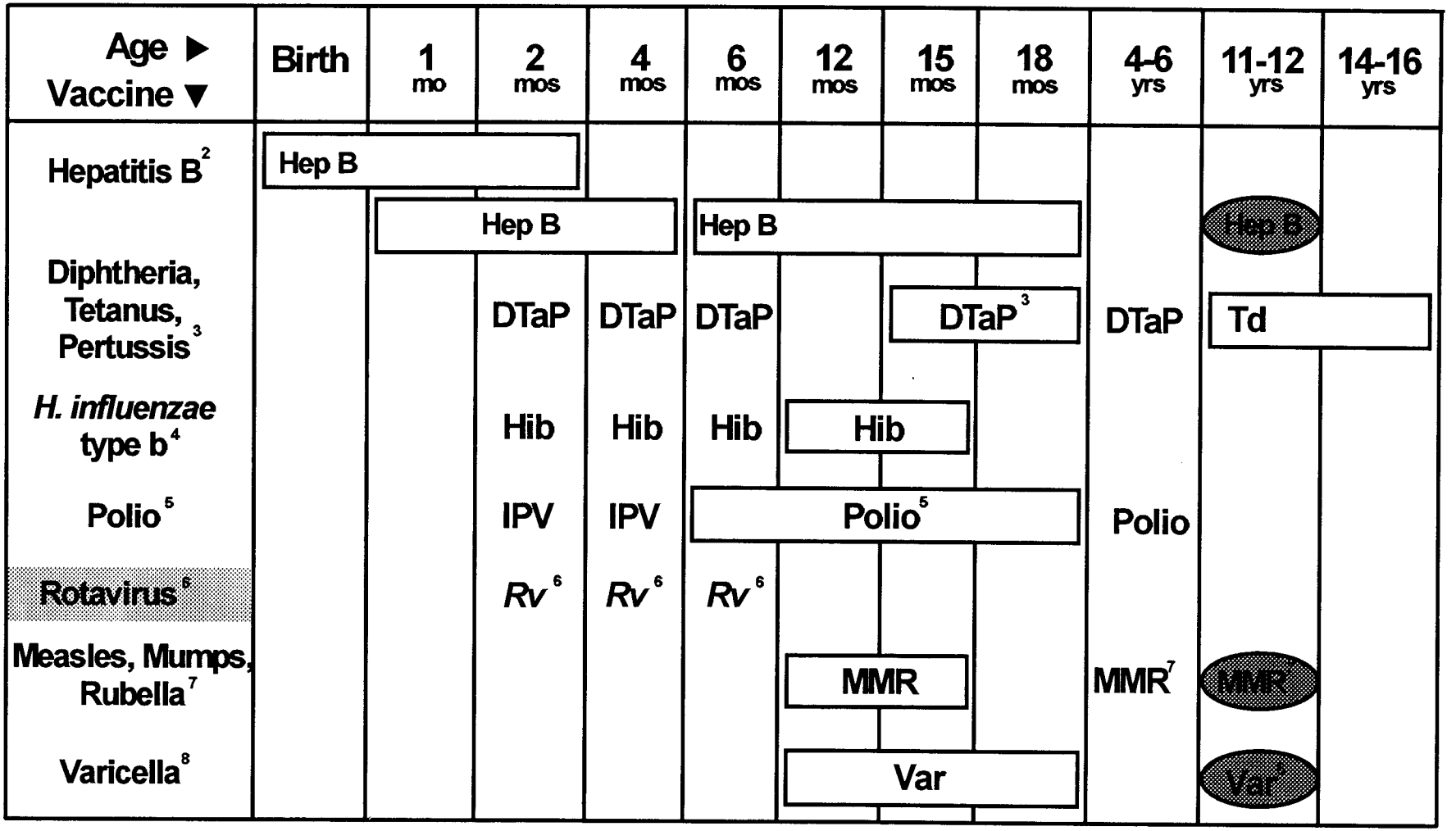




* These data do not agree with tables using date of onset or date of diagnosis.
** The number of cases graphed represent 10% of the total number reported.

Recommended Childhood Immunization Schedule United States, January - December 1999

Vaccines[1] are listed under routinely recommended ages. Bars indicate range of recommended ages for immunization. Any dose not given at the recommended age should be given as a "catch-up" immunization at any subsequent visit when indicated and feasible. Ovals indicate vaccines to be given if previously recommended doses were missed or given earlier than the recommended minimum age.



Approved by the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP).

[1] This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines. Combination vaccines may be used whenever any components of the combination are indicated and its other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations.

[2] ***Infants born to HBsAg-negative mothers*** should receive the 2nd dose of hepatitis B (Hep B) vaccine at least one month after the 1st dose. The 3rd dose should be administered at least 4 months after the 1st dose and at least 2 months after the 2nd dose, but not before 6 months of age for infants.
Infants born to HBsAg-positive mothers should receive hepatitis B vaccine and 0.5 mL hepatitis B immune globulin (HBIG) within 12 hours of birth at separate sites. The 2nd dose is recommended at 1-2 months of age and the 3rd dose at 6 months of age.
Infants born to mothers whose HBsAg status is unknown should receive hepatitis B vaccine within 12 hours of birth. Maternal blood should be drawn at the time of delivery to determine the mother's HBsAg status; if the HBsAg test is positive, the infant should receive HBIG as soon as possible (no later than 1 week of age).
All children and adolescents (through 18 years of age) who have not been immunized against hepatitis B may begin the series during any visit. Special efforts should be made to immunize children who were born in or whose parents were born in areas of the world with moderate or high endemicity of hepatitis B virus infection.

[3] DTaP (diphtheria and tetanus toxoids and acellular pertussis vaccine) is the preferred vaccine for all doses in the immunization series, including completion of the series in children who have received 1 or more doses of whole-cell DTP vaccine. Whole-cell DTP is an acceptable alternative to DTaP. The 4th dose (DTP or DTaP) may be administered as early as 12 months of age, provided 6 months have elapsed since the 3rd dose and if the child is unlikely to return at age 15-18 months. Td (tetanus and diphtheria toxoids) is recommended at 11-12 years of age if at least 5 years have elapsed since the last dose of DTP, DTaP or DT. Subsequent routine Td boosters are recommended every 10 years.

[4] Three *Haemophilus influenzae* type b (Hib) conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB® or ComVax® [Merck]) is administered at 2 and 4 months of age, a dose at 6 months is not required. Because clinical studies in infants have demonstrated that using some combination products may induce a lower immune response to the Hib vaccine component, DTaP/Hib combination products should not be used for primary immunization in infants at 2, 4 or 6 months of age, unless FDA-approved for these ages.

[5] Two poliovirus vaccines currently are licensed in the United States: inactivated poliovirus (IPV) vaccine and oral poliovirus (OPV) vaccine.
The ACIP, AAP and AAFP now recommend that the first two doses of poliovirus vaccine should be IPV. The ACIP continues to recommend a sequential schedule of two doses of IPV administered at ages 2 and 4 months, followed by two doses of OPV at 12-18 months and 4-6 years. Use of IPV for all doses also is acceptable and is recommended for immunocompromised persons and their household contacts.
OPV is no longer recommended for the first two doses of the schedule and is acceptable only for special circumstances such as: children of parents who do not accept the recommended number of injections, late initiation of immunization which would require an unacceptable number of injections, and imminent travel to polio-endemic areas. OPV remains the vaccine of choice for mass immunization campaigns to control outbreaks due to wild poliovirus.

[6] Rotavirus (Rv) vaccine is shaded and italicized to indicate: 1) health-care providers may require time and resources to incorporate this new vaccine into practice; and 2) the AAFP feels that the decision to use rotavirus vaccine should be made by the parent or guardian in consultation with their physician or other health care provider. The first dose of Rv vaccine should not be administered before 6 weeks of age, and the minimum interval between doses is 3 weeks. The Rv vaccine series should not be initiated at 7 months of age or older, and all doses should be completed by the first birthday.

[7] The 2nd dose of measles, mumps, and rubella (MMR) vaccine is recommended routinely at 4-6 years of age but may be administered during any visit, provided at least 4 weeks have elapsed since receipt of the 1st dose and that both doses are administered beginning at or after 12 months of age. Those who have not previously received the second dose should complete the schedule by the 11-12 year old visit.

[8] Varicella (Var) vaccine is recommended at any visit on or after the first birthday for susceptible children, i.e. those who lack a reliable history of chickenpox (as judged by a health care provider) and who have not been immunized. Susceptible persons 13 years of age or older should receive 2 doses, given at least 4 weeks apart.